CONTENTS OF *AGRICULTURE, ECOSYSTEMS AND ENVIRONMENT*, VOLUME 25

VOL. 25 NO. 1 — JANUARY 1989

Effect of improved implements on the pattern of energy utilization in agriculture
N.K. Bansal, M.K. Garg and M.L. Jain (Hisar, India) 1
Energy parameters for raising crops under various irrigation treatments in Indian agriculture
J.P. Mittal and K.C. Dhawan (Ludhiana, India) 11
Uptake of nickel and cadmium by vegetables grown on soil amended with different sewage sludges
R.N. Singh and R.F. Keefer (Morgantown, WV, U.S.A.) 27
Effect of tied ridges and undersown *Stylosanthes hamata* (L.) on soil properties and growth of maize in the Sudan savannah of Burkina Faso
N.R. Hulugalle (Burkina Faso, West Africa) 39
The influence of mixed intercropping of oats with field beans on the abundance and spatial distribution of cereal aphids (Homoptera, Aphididae)
J. Helenius (Helsinki, Finland) 53
Susceptibility of avocado cultivars to the pyriform scale, *Protopulvinaria pyriformis* (Cockerell) (Homoptera: Coccidae)
A.H. de Meijer (Amsterdam, The Netherlands), M. Wysoki, E. Swirski, D. Blumberg (Bet Dagan, Israel) and Y. Izhar (Tel Aviv, Israel) 75

Announcements 83

Guide for Authors 85

VOL. 25 NOS. 2–3 — MARCH 1989

Efficient use of energy inputs in rainfed pearl millet
N.L. Joshi (Jodhpur, India) 91
Odors of swine waste lagoons
E.G. Hammond, C. Heppner and R. Smith (Ames, IA, U.S.A.) 103
Sorption of selenate by Finnish agricultural soils
E. Vuori, J. Vääriskoski, H. Hartinkainen, P. Vakkilainen (Helsinki, Finland), J. Kumpulainen (Jokioinen, Finland) and K. Niinivaara (Oulu, Finland) 111
Nitrogen and phosphorus yields in run-off from silty soils in the Mississippi Delta, U.S.A.
L.L. McDowell, C.E. Murphree (Oxford, MS, U.S.A.) and G.H. Willis (Baton Rouge, LA, U.S.A.) 119
Estimates of grain yield losses caused in sorghum (*Sorghum bicolor* L. Moench) by *Striga asiatica* (L.) Kuntz obtained using the regression approach
M.J. Vasudeva Rao, V.L. Chidley and L.R. House (Patancheru, India) 139
Outbreak of an unusual stem tip dieback of cassava (*Manihot esculenta* Crantz) in western Zaire
A. Muimba-Kankolongo, L. Simba, T.P. Singh and G. Muyolo (Kinshasa, Zaire) 151
Habitat and fertilization effects on leaf herbivory in *Hampea appendiculata* (Malvaceae): implications for tropical firewood systems
R.J. Marquis (Urbana, IL, U.S.A.) and D.B. Clark (San José, Costa Rica) 165

Nutrient input and output of an irrigated agroecosystem in an arid Mediterranean landscape
J. Bellot (Zaragoza, Spain) and F.B. Golley (Athens, GA, U.S.A.) 175
Bioconcentration and metabolism of aldrin and phorate by the blue-green algae *Anabaena* (ARM 310) and *Aulosira fertilissima* (ARM 68)
P.S. Dhanaraj, S. Kumar and R. Lal (New Delhi, India) 187
The ground beetle and spider fauna of managed and unimproved upland pasture
M.L. Luff and S.P. Rushton (Newcastle upon Tyne, Gt. Britain) 195
Potential wind and water erodibility of four land-use systems in south-eastern Montana, U.S.A.
S.G. McConnell (Bozeman, MT, U.S.A.) 207
Effect of crop rotations and fertilization on energy balance in typical production systems on the Canadian Prairies
R.P. Zentner, M.A. Stumborg and C.A. Campbell (Swift Current, Sask., Canada) 217
Soil arthropods from weed and crop roots of an agroecosystem in a wheat–soybean–corn rotation: impact of tillage and herbicides
G.J. House (Raleigh, NC, U.S.A.) 233
Seedling growth of three Great Basin wildrye collections at reduced osmotic potential
B.A. Roundy (Tucson, AZ, U.S.A.), J.A. Young and R.A. Evans (Reno, NV, U.S.A.) 245
Cultivation and use of lesser-known plants of food value by tribals in north-east India
A.K. Gangwar and P.S. Ramakrishnan (New Dehli, India) 253

Announcement 269

VOL. 25 NO. 4 **APRIL 1989**

A rubber heat engine for ground water irrigation in India
R. Singh (East Windsor, NJ, U.S.A.) 271
Nitrate concentrations in percolate and groundwater under conventional and no-till *Zea mays* watersheds
J.S. Angle, C.M. Gross and M.S. McIntosh (College Park, MD, U.S.A.) 279
Incidence of different biovars of *Pseudomonas fluorescens* in flooded rice rhizospheres in India
N. Sakthivel and S.S. Gnanamanickam (Madras, India) 287
A simple multigeneration phenology model: application to *Scirtothrips citri* (Thysanoptera: Thripidae) prediction on California oranges
A.A. Rhodes, J.G. Morse and C.A. Robertson (California, CA, U.S.A.) 299
The influence of farming systems and practices on the evolution of the cotton-boll weevil agroecosystem in the Americas — a review
R.W. Fisher (College Station, TX, U.S.A.) 315
Effects of carbofuran and carbaryl on the growth of a green alga and two cyanobacteria isolated from a rice soil
M. Megharaj, A.S. Rao (Nagarjunanagar, India) and K. Venkateswarlu (Anantapur, India) 329
The activity of virus vector aphids on cucumbers
Z. Basky and M.A. Nasser (Kecskemét, Hungary) 337

Book Reviews
Simulation of a wheat crop 343
Pest control in citrus 345
Farming systems 348

Production agriculture 350
Program model for Sweden 351
Symbiosis 353

Erratum 355

Announcements 357

Author Index 361